

## REMARKS

Claims 1-24 are currently pending in the above-identified patent application. In the subject Office Action, the Examiner stated that the Office Action is a reply to applicants' communication filed on October 25, 2007, and that applicants' Remarks and amendments to claims 1-24 have been considered, but are moot in view of the new ground of rejection.

Claims 1-24 were newly rejected under 35 U.S.C. 102(e) as being anticipated by Ofek (U.S. Patent No. 6,549,921) since the Examiner stated that as to independent claim 1, Ofek discloses a method for recovering data in a redundant data storage system having a plurality of data storage units [Fig. 1, Col. 14, lines 38-46], said method comprising: storing said data on said plurality of data storage units according to a redundant data storage method [Col. 14, lines 38-46]; removing one of said plurality of data storage units for a period [Col. 14, lines 48-49]; starting a delta log concurrent with said step of removing one of said plurality of data storage units [Col. 14, lines 50-]; changing a portion of said data on the remainder of said plurality of data storage units during the period when one of said plurality of data storage units is removed in accordance with the redundant data storage method [Col. 14, lines 59-64]; storing a record of said changes in said delta log during the when one of said plurality of data storage units is removed [Col. 14, lines 59-64]; replacing said one of said plurality of data storage units [Col. 14, lines 59-64]; and updating said one of said plurality of data storage units [Col. 14, lines 59-64].

As to independent claims 9 and 17, the Examiner continued that the rationale in the rejection of claim 1 is herein incorporated. Ofek further discloses a redundant data storage system capable of fast restoration of serviced data storage units [Fig. 1] comprising: a plurality of data storage units [Fig. 1, Storage devices 15, 16, 42, 43]; and a controller that stores data on said plurality of data storage units according to a redundant data storage method [Fig. 1, controllers 31, 34], changes a portion of said data after taking one of said plurality of said data storage units off line [Col. 18, lines 1-7], stores a record of the changes in a delta log that are made to the remainder of the plurality of said data storage units

[Col. 18, lines 5-7], brings said one of said plurality of said data storage units online, and updates said one of said plurality of said data storage units by updating those portions of data recorded in said delta file [Col. 18, 13-19].

The Examiner rejected claims 2, 10 and 18, stating that Ofek discloses the redundant data storage method comprises RAID 1 [Col. 1, line 35-45]; claims 3, 11, and 19, stating that Ofek discloses redundant data storage method comprises RAID 3 [Col. 1, lines 35-45]; claims 4, 12 and 20, stating that Ofek discloses redundant data storage method comprises RAID 5 [Col. 1, lines 35-45]; claims 5, 13 and 21, stating that Ofek discloses the redundant data storage method comprises remotely mirroring the data [Col. 1, lines 36-45]; claims 6, 14 and 22, stating that Ofek discloses the one of said data storage units comprises a plurality of disk drives [Col. 3, lines 44-48]; claims 7, 15 and 23, stating that Ofek discloses delta file comprises pointers to said portion of said data that is changed [Col. 14, lines 50-64]; and claims 8, 16 and 24, stating that Ofek discloses the delta file comprises an updated version of the portion of the data that is changed [Col. 18, lines 12-19].

Applicants respectfully disagree with the rejection of claims 1-24 under 35 U.S.C. 102(e) as being anticipated by Ofek. Reexamination and reconsideration are requested.

Turning now to Col. 14, lines 38-64, of Ofek, applicants wish to point out that during the second operating mode, while the second data storage facility is isolated from the first data storage facility, changes made during this operating mode are recorded to the data in the first data storage facility (in its normal operating mode), and data is transferred from the isolated second data storage facility to the medium in the backup facility simultaneously with and independently of the operation of the data processing system with the first data storage facility. Subsequent to this step (after completion of the data transfer and independently of the data processing system), the data in the second data storage facility is updated by transferring data for which changes have been recorded during the second operating mode from the first data storage facility. The backup medium of Ofek is not used as a "delta log" for recording data

incoming to the data processing system while the second data storage facility has been isolated therefrom. Rather, the backup facility is used to backup the second data storage facility. Nor is a "delta log" started at all since it is stated that the first data storage facility continues its normal operations.

Moreover, claim 10 of Ofek teaches that data is stored in data blocks in the first and second data storage facilities such that during the backup operating mode, changes made to blocks of the first data storage facility are identified and the data in each changed block is transferred to the second data storage facility. Thus, no "delta log" is started when the second data storage facility is isolated.

As stated on page 4, beginning on line 22, and ending on page 5, line 3, of the subject Specification: "When one of the data storage units **104** or **106** becomes unavailable, a delta log may be kept. The delta log **108** may keep track of any changes made to the data during temporary outage of one of the data storage units **104** or **106**. When the data storage unit becomes available again, only the changed data as recorded in the delta log **108**, may need to be updated in the restarted data storage unit." Thus, the delta log of the present invention keeps track of changes made to the data during an outage of one of the data storage units.

Subject claim 1 recites in part: "...removing one of said plurality of data storage units for a period; starting a delta log concurrent with said step of removing one of said plurality of data storage units; changing a portion of said data on the remainder of said plurality of data storage units during the period when one of said plurality of data storage units is removed in accordance with the redundant data storage method; storing a record of said changes in said delta log during the period when one of said plurality of data storage units is removed; replacing said one of said plurality of data storage units; and updating said one of said plurality of data storage units by updating those portions of data recorded in said delta log." (Emphasis added by applicants.). Claim 1 clearly recites the use of a delta log for storing a record of changes on the remainder of the plurality of data storage units during the period when one of the data storage

units is removed, and updating the removed data storage unit with those portions recorded on the delta log when the data storage unit is restored to operation.

Independent claims 9 and 17 also recite the use of a delta log ("third means" in claim 17).

Ofek does not teach the use of a delta log.

It is well known that "Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." *Soundsciber Corp. v. U.S.*, 360 F.2d 954, 960, 148 USPQ 298, 301, adopted, 149 USPQ 640 (Ct. Cl. 1966). Applicants respectfully believe that Ofek does not anticipate independent claims 1, 9 and 17.

Concerning the rejection of dependent claims 2-8, 10-16 and 18-24, since these claims depend from independent claims 1, 9 and 17, respectively, and, for the reasons set forth hereinabove, applicants believe that these independent claims are patentable over Ofek, applicants respectfully believe that no further response with regard to the dependent claims is required.

In view of the discussion presented hereinabove, applicants believe that subject claims 1-24 are in condition for allowance or appeal, the former action by the Examiner at an early date being earnestly solicited.

Reexamination and reconsideration are respectfully requested.

Respectfully submitted,

COCHRAN FREUND & YOUNG LLC

By: 

Samuel M. Freund  
Reg. No. 30,459  
2026 Caribou Drive, Suite 201  
Fort Collins, Colorado 80525  
Phone: (970) 492-1100  
Fax: (970) 492-1101

Date: May 13, 2008